

# Virginia Roanoke River Basin TMDL Development

Virginia Roanoke River Basin Advisory Committee Meeting  
October 5, 2005









# What is a TMDL?

**TMDL = Total Maximum Daily Load**

The Amount of Pollution A Stream Can Receive and  
Still Meet Water Quality Standards



# TMDL Development

- ID all sources of pollutant and required reductions
- Must account for critical stream conditions
  - climate, flow, seasonal variations
- Invite Stakeholder/Public participation



# TMDL Implementation

- Identify control measures (BMPs, Permit Limits, etc.)
- Focused stakeholder groups (Ag, Gov., Residential)
- Identify sources of funding
- Conduct follow-up monitoring

# Roles



Monitoring/Assessment

Overall Lead Agency/  
Public Participation

Develop TMDL Plans

EPA Approval



Assist in Development  
of NPS TMDLs

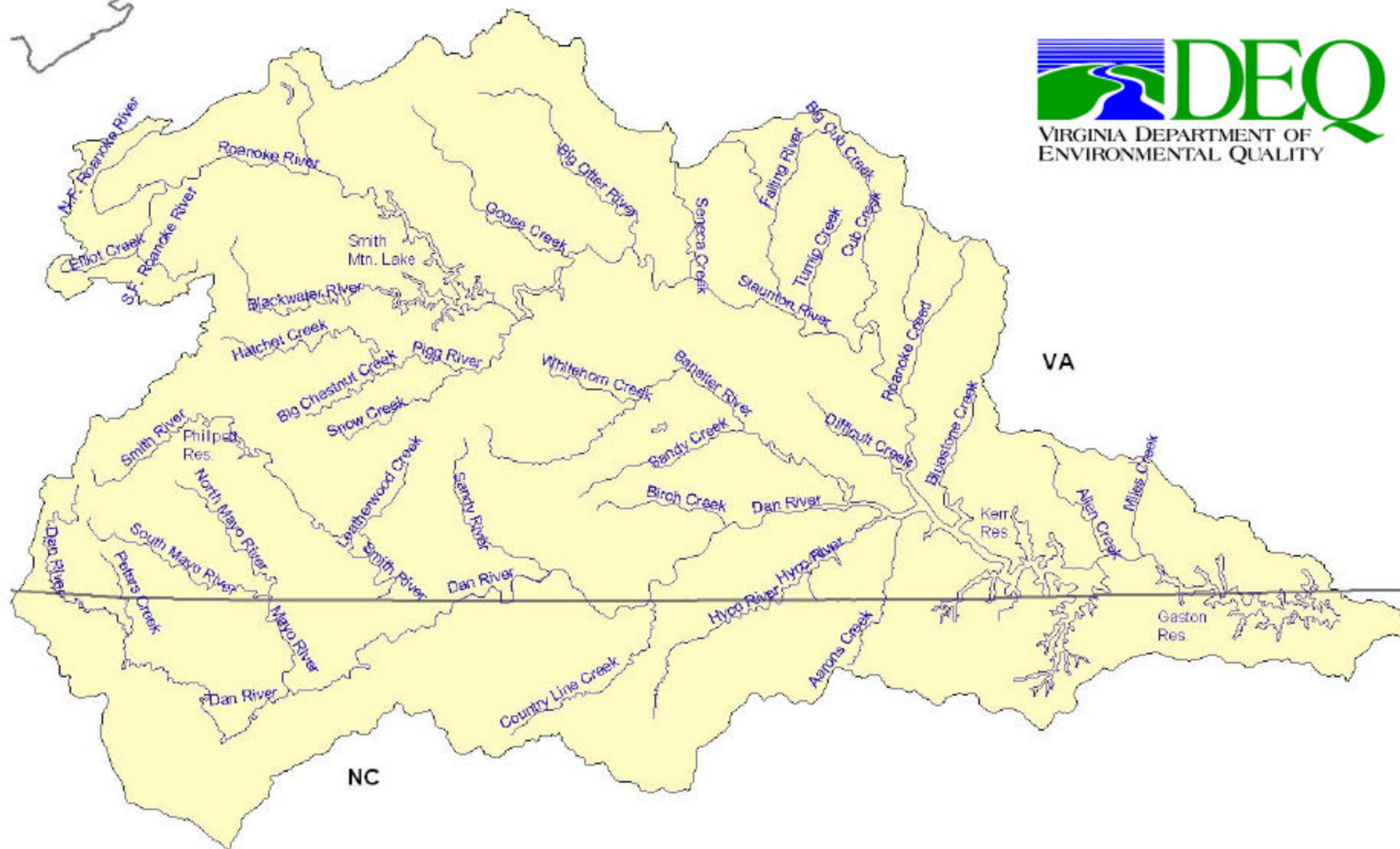
Develop Implementation  
Plan to meet TMDL

Provide Cost Share Funding



# Roanoke River Basin

WVA



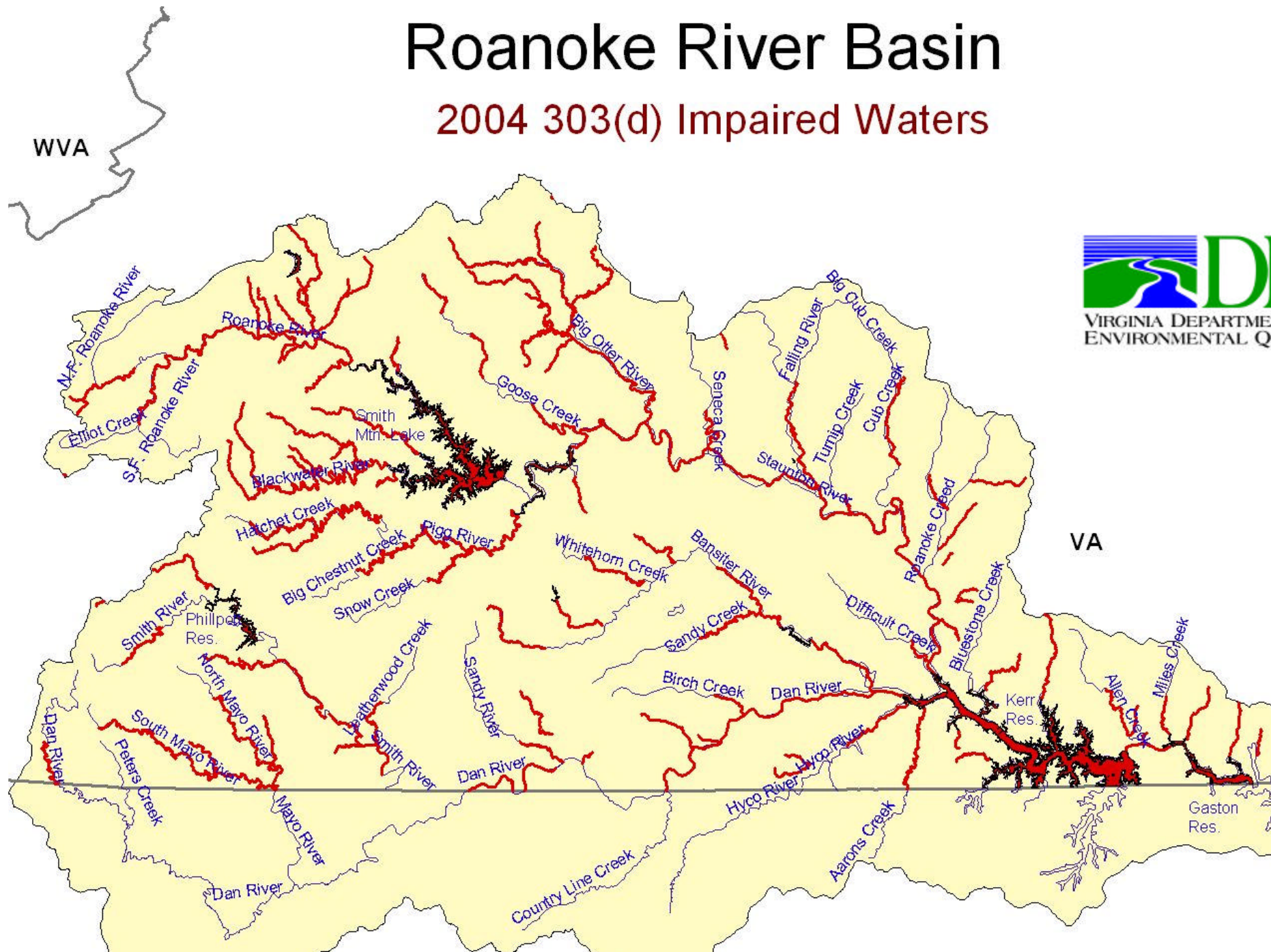
VA

NC



# Roanoke River Basin

2004 303(d) Impaired Waters





# Roanoke River Basin TMDLs in Implementation or EPA Approved

| Stream Name   | City/County                    | Status         | Impairment         |
|---|--------------------------------|----------------|--------------------|
| Maggodee Creek, Blackwater River, Gills Creek                               | Franklin                       | Implementation | Bacteria, Benthics |
| Sheeps Creek, Elk Creek, Machine Creek, Little Otter River, Big Otter River | Bedford, Campbell              | Implementation | Bacteria           |
| Tinker Ck. , Laymantown Ck., Carvins Ck., Glade Ck., Lick Run               | Roanoke, Botetourt, and Vinton | EPA Approved   | Bacteria           |
| Birch Creek   | Pittsylvania, Halifax          | EPA Approved   | Bacteria           |
| Falling River   | Campbell                       | EPA Approved   | Bacteria           |
| Flat Creek  | Mecklenburg, South Hill        | EPA Approved   | Bacteria, Benthic  |
| Ash Camp Ck.  | Charlotte                      | EPA Approved   | Benthic            |
| Twittys Ck.   | Charlotte                      | EPA Approved   | Benthic            |

# Roanoke River Basin Draft TMDLs

| Stream Name   | City/County                                    | Status     | Impairment |
|---|--|------------|------------|
| South and North Forks<br>Roanoke River, Wilson<br>Creek, Roanoke River,<br>Ore Branch<br>Masons Creek, Peters Creek | Montgomery,<br>Salem,<br>Roanoke Co.<br>& City | Draft TMDL | Bacteria   |
| Roanoke River   | Roanoke City                                   | Draft TMDL | Benthic    |
| Roanoke River and Smith Mt.<br>Lake   | Bedford, Franklin                              | Draft TMDL | Bacteria   |

# Roanoke River Basin TMDLs Studies In Progress

| Stream Name  | City/County  | Status  | Impairment |
|--|--|---|------------|
| Pigg River, Storey Creek, Snow Creek,<br>Big Chestnut Creek, Old Womans<br>Creek, Leesville Lake | Pittsylvania, Bedford,<br>Franklin                               | TMDL (2nd public<br>Meeting<br>10/27/05)                                    | Bacteria   |
| Staunton (Roanoke) River, Cub Creek,<br>Turnip Creek, Buffalo Creek                              | Pittsylvania, Halifax,<br>Campbell, Charlotte                    | TMDL (2 <sup>nd</sup> TAC<br>Meeting<br>09/29/05)                           | Bacteria   |
| Roanoke and Staunton (Roanoke)<br>Rivers except Leesville Lake                                   | Roanoke, Salem,<br>Pittsylvania, Halifax,<br>Campbell, Charlotte | TMDL (1 <sup>st</sup> public<br>meeting and<br>begin monitoring<br>10/2005) | PCBs       |
| Beaverdam Creek  | Bedford  | TMDL (monitoring<br>began 7/03)   | Bacteria   |
| South and North Forks of Mayo River  | Henry, Patrick   | TMDL Monitoring<br>began 7-05)  | Bacteria   |
| Smith River, Blackberry Ck.,<br>Leatherwood Ck., Marrowbone<br>Ck.                               | Henry, Martinsville  | TMDL Monitoring<br>began 7-05)  | Bacteria   |



# Roanoke River Basin TMDLs Studies In Progress

| Stream Name   | City/County           | Status                                  | Impairment |
|---|-----------------------|---|------------|
| Dan River, Sandy River, Double Creek,<br>Sandy Creek, Fall Creek, Byrds<br>Branch     | Pittsylvania, Halifax | TMDL (monitoring<br>begins 07/05)       | Bacteria   |
| Banister River, Cherrystone Creek,<br>Whitehorn Creek, Sandy Creek,<br>Stinking River | Pittsylvania, Halifax | TMDL (Monitoring<br>began 07/05)        | Bacteria   |
| Great Creek   | Mecklenburg           | TMDL (monitoring<br>completed<br>09/05) | Bacteria   |

# TMDL Issues

## Funding

- DEQ is evaluating the need for additional funding and will share that information once it is finalized (probably in December)
- Increased funding may be needed for
  - biological monitoring
  - Implementation of TMDL Plans (point source and non-point source measures)



# TMDL Issues

## Legislative Authority



### Point Sources

- No additional legislative authority needed as implementation of TMDL point source allocations is mandated

### Non-point Sources

- The State has no legislative authority to regulate most non-point sources or to require TMDL implementation
- Localities have the authority to adopt ordinances to protect water quality (including implementation of TMDL components) (15.2-1110)





## November 21, 2005

- Joint Meeting of State Water Control Board, Soil & Water Conservation Board, Chesapeake Bay Local Assistance Board
- To discuss options for achieving non-point source pollution reduction goals



A photograph of a river flowing through a dense forest. The water is a murky, brownish-green color, and the surrounding trees are lush and green. The text "Case Study: Blackwater River Implementation" is overlaid in white, centered on the image.

# Case Study: Blackwater River Implementation

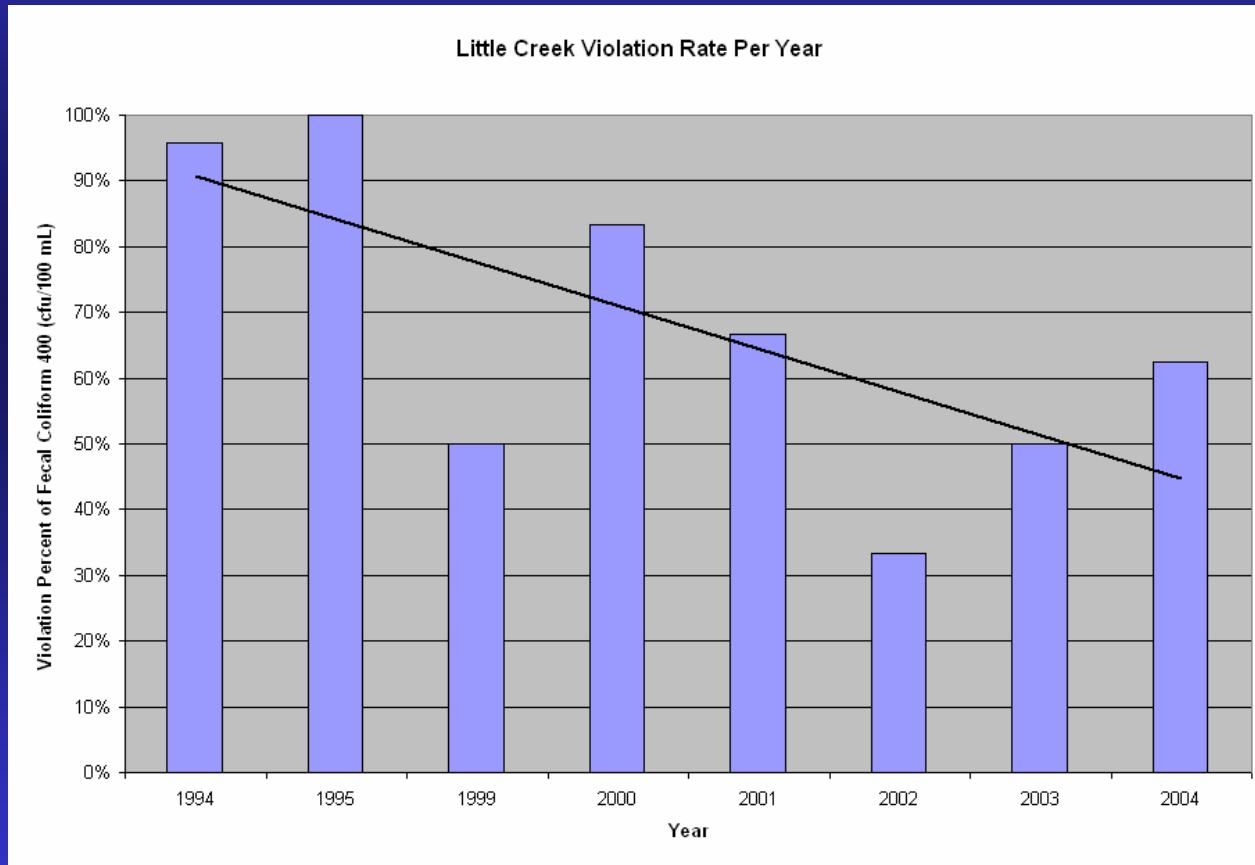
# Blackwater Watershed Background

- Tributary to Smith Mountain Lake
- Watershed is dominated by agriculture
- Bacteria TMDL approved in 2001
- Benthic TMDL approved in 2004
- DEQ bacteria monitoring data has shown improvement

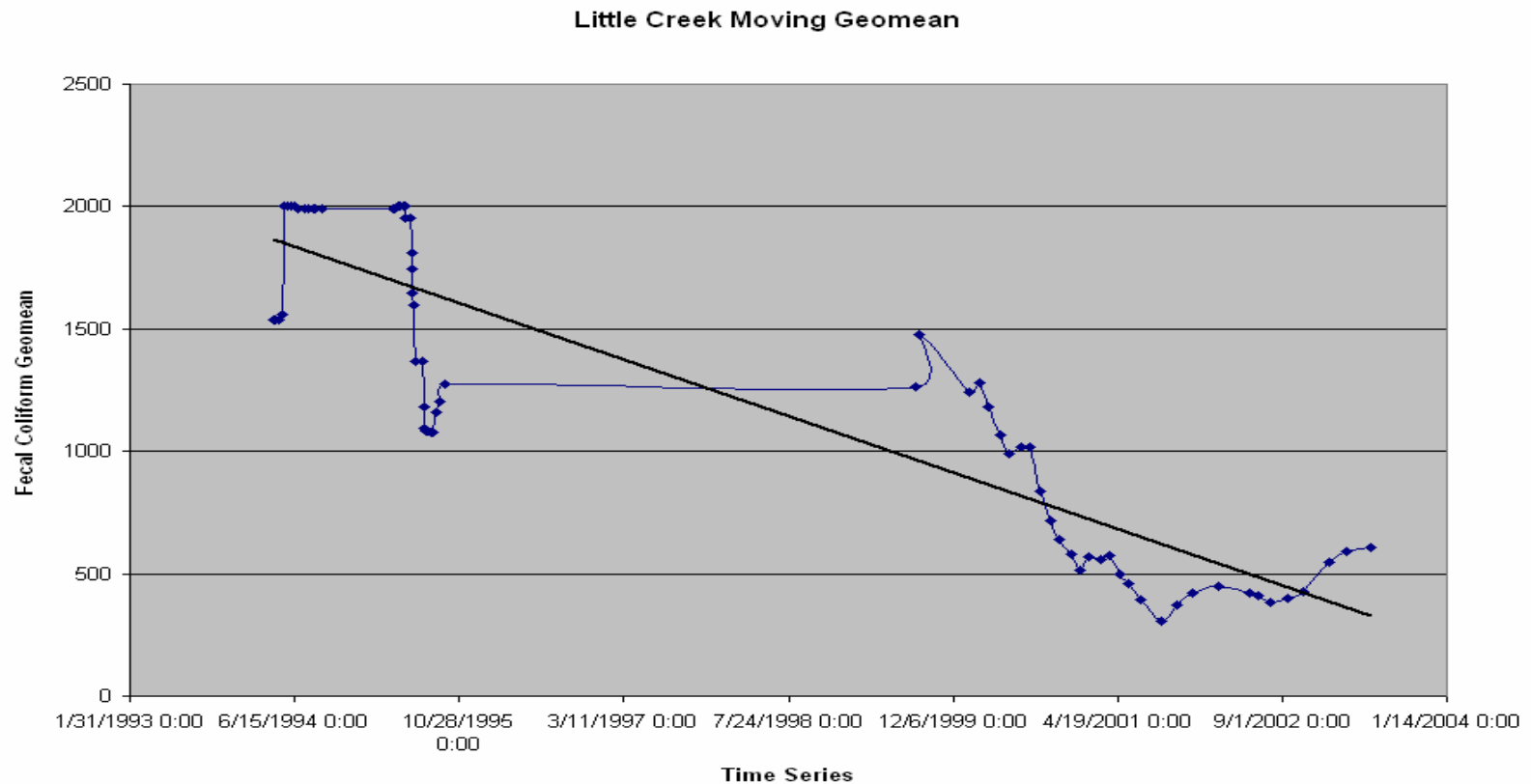




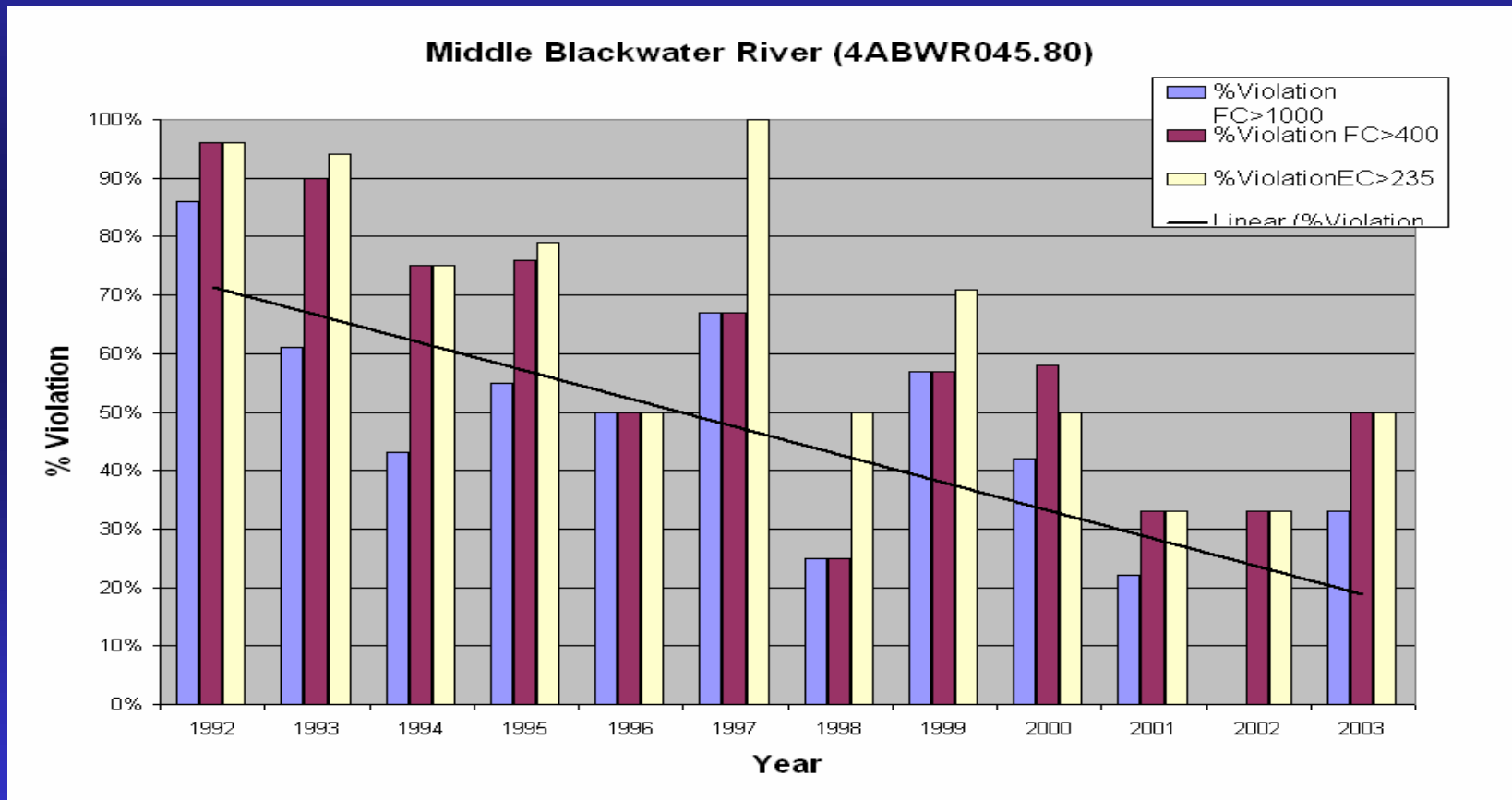
# Little Ck. Standard Violation Rate Trend Data



# Little Ck. 12 Month Moving Average Geomean



# Blackwater Standard Violation Rate Trend Data







# Questions?

<http://www.deq.virginia.gov/tmdl>

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